



**Cargill Dow LLC**

## Why Sustainability Is So Important to the Military

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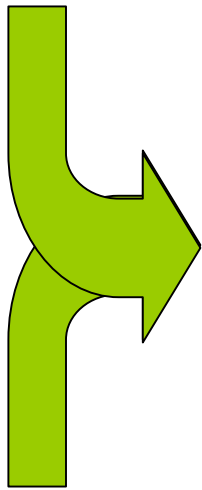
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# Introduction to Cargill Dow



*50/50 Joint  
Venture*



**Cargill Dow LLC**

Founded in 1997



# **Cargill Dow LLC**

## ***A New Business Built on Sustainability Principles***

- Build a platform of sustainable (economics, environment, social) polymers and chemicals with a competitive performance and entirely made from annually renewable resources
- Use optimal combination of agricultural processes, and biological and chemical technologies
- Headquarter is located in Minneapolis, Minnesota, US
- Offices in Naarden, The Netherlands and Tokyo, Japan
- Global stand-alone organisation
- Employment for 230 people world-wide
- >110 US Patents issued, 400 owned world-wide



**Cargill Dow LLC**



# Cargill Dow LLC

- Savage, Minneapolis: 6,000 MT Semi works plant is operational
- Blair Nebraska: 140,000 MT PLA capacity is operational
- Blair, Nebraska: 180,000 MT LA capacity by end of 2002
- \$ 750 million dollar (committed) investment





## **PLA Plant Blair, Nebraska January 2002**

- \$ 300 Million Capital Investment
- 19 months from ground breaking to prime product
- 10 years to develop technology, know-how and receptive market



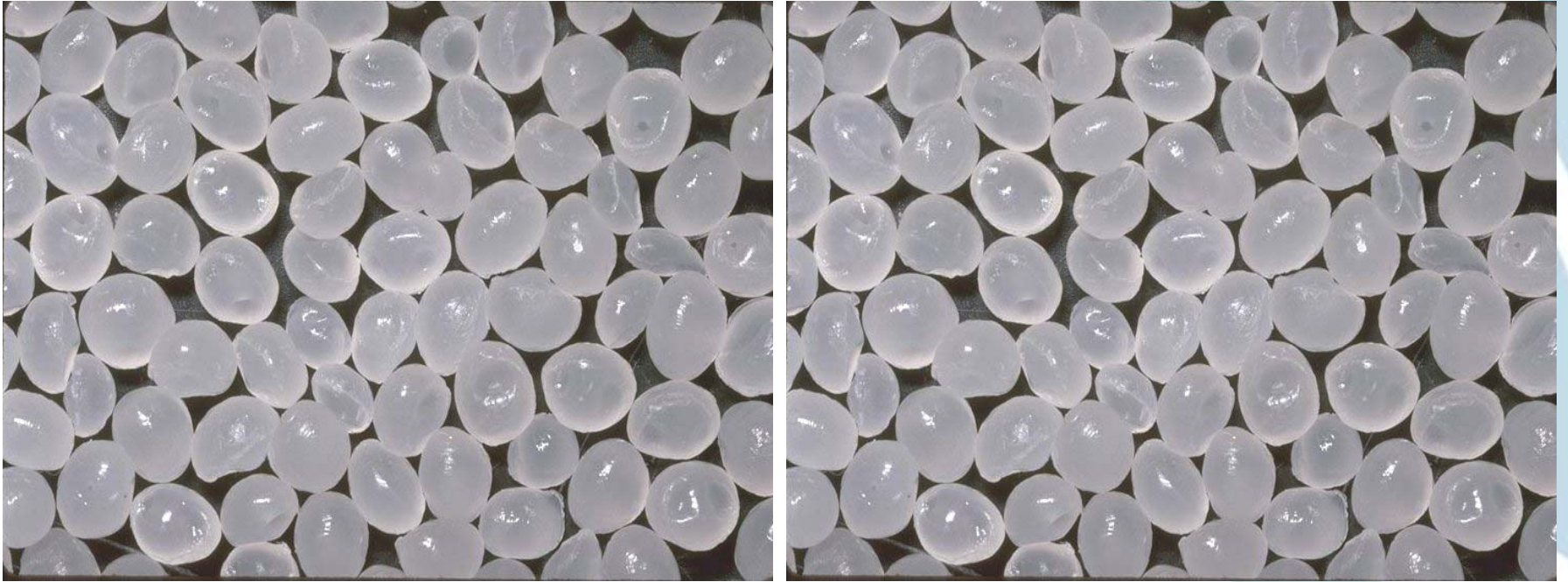
# LA Plant Blair, Nebraska January, 2002

Under Construction





# What distinguishes Cargill Dow PLA from traditional polymers?





# ***Sustainability***

# Sustainability - The Framework

# What is Sustainability?

- "[Sustainable development] meets the needs of the present without compromising the ability of future generations to meet their own needs" - Bruntland - *Security*
- "Sustainable development is a process that enables all people to realize their potential and improve their quality of life in ways which protect and enhance Earth's life support systems" - Sara Parkin
- Sustainability means living and working as if you really believe there will be a tomorrow

# Why Focus on Sustainability?

***Growing demand is on a collision-course with declining resources***

- Current consumption and pollution trends *will* leave future generations with more problems and fewer solutions options.
- All human and natural activity must occur within the finite physical constraints of the planet Earth.
- The pace of degradation and the magnitude of the problem are increasing, in spite of impressive successes.



# Why Move Toward Sustainability?

- Image - Creation and enhancement
- Ethics - Organizational environmental responsibility
- Advantage - Competitive advantage or prevent disadvantage
- Risk - Economic, regulatory, perception risks
- Money - Cost savings



# What Do Sustainability-Focused Organizations Do?

1. Adopt a vision of sustainability--a driving definition--one that tells them when they are going right or wrong.
2. Project the vision of their enterprise in a sustainable society and flesh out the context for the results of their efforts.
3. Assess impacts and use that assessment to drive their agenda for action.
4. Commit to action and choose actions according to some rigorous, structured, disciplined approach (e.g., Natural Capitalism, Natural Step)

# Natural Capitalism

- A coherent framework for approaching sustainability
- Based on four general overarching principles:
  - Resource efficiency: Do much more with much less
  - Biomimicry: Model on nature, close loops to eliminate waste
  - Service & flow business models: Align interests of producers and users
  - Natural capital: Invest in and restore the underlying capital base, including human capital
- Other frameworks have similar foundations - which one is used is not as important as ensuring that the system is comprehensive, coherent and robust

# What Do Sustainability-Focused Organizations Do? *(cont.)*

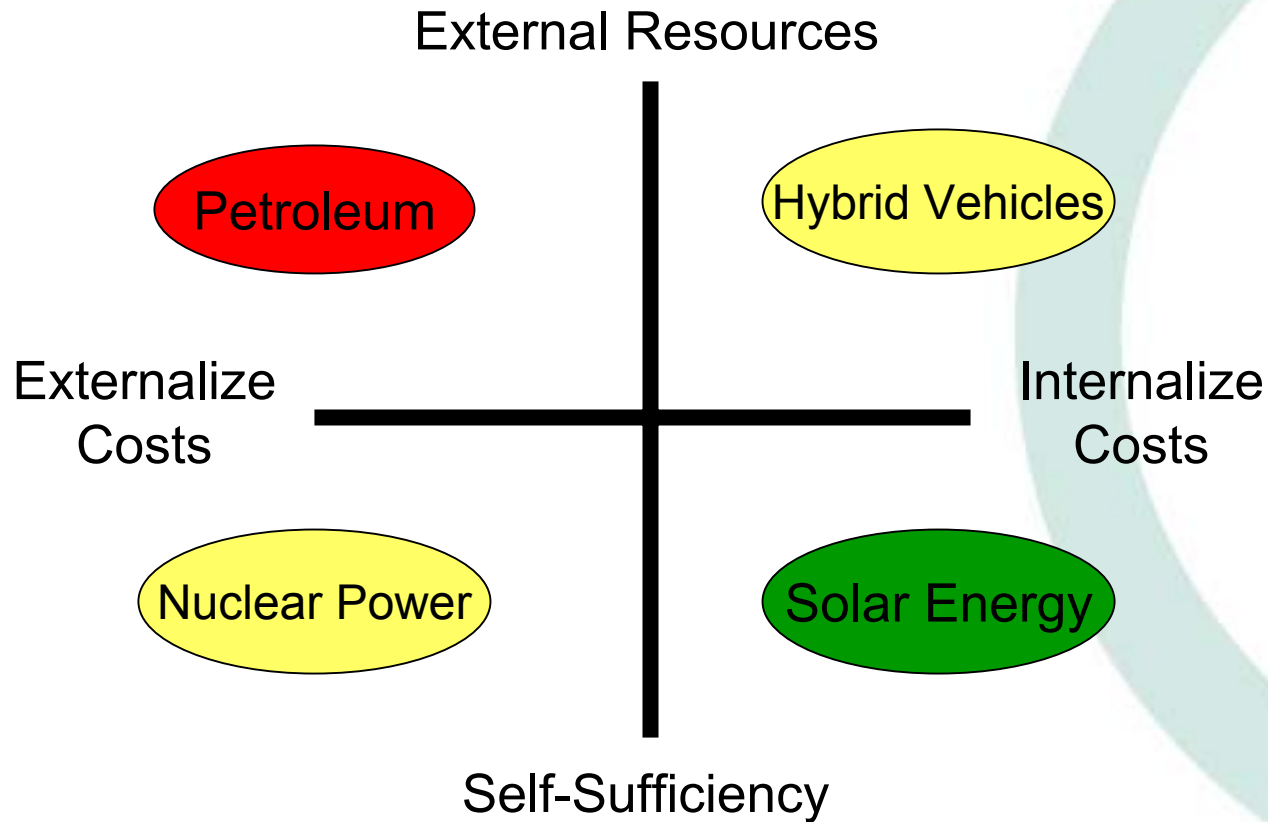
5. Take action and measure results.
6. Engage the public with plans, actions and results. Revisit all of the above (use active feedback loops) regularly, and whenever considering new major actions, products or services. Use external and internal feedback to modify, improve and expand efforts.
7. Expand the reach of sustainability initiatives (e.g., other activities, divisions, into the supply chain, into the community, into other zones of impact).
8. Do it all again, and again.

# The United States Army

# Sustainability = Security

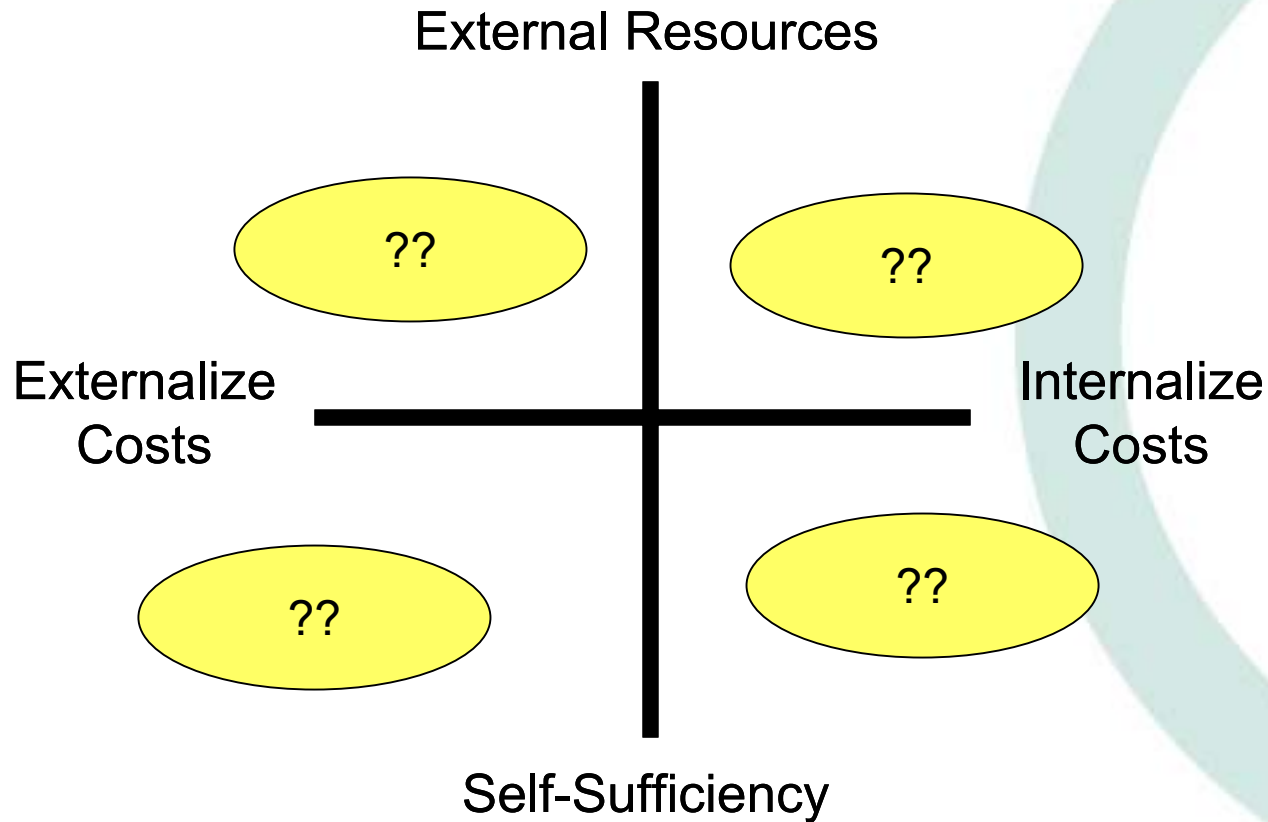
- Sustainability is about meeting needs today and tomorrow
- Security is about freedom from fear of privation or want - today and tomorrow
- Security is about balancing:
  - Self-Sufficiency vs. Reliance on External Resources  
*and*
  - Externalizing costs vs. Internalizing costs

# Sustainability = Security



***Striking the Right Balance for Each End-Use is the Key!***

# Sustainability = Security



*What Does Your Security Plot Look Like?*



# What is a Sustainable Installation?

*Much more than Environmental Management (though EM is vital)*

- Obtaining adequate resources reliably, and without regrets
- Continuous and strengthened support for training, warfighting missions
- No impediments to future mission planning, execution, completion
- Neighbors, not tenants

# What are the Installation Benefits?

- G-1: Happier, healthier, more productive people, with lower wage pressure
- G-2: Easier management of information assets, less vulnerability to unpredictable developments
- G-3: Less complex and costly operations planning, more resources deployable to primary missions
- G-4: More reliable logistical support, fewer constraints
- G-5: More supportive civil population; community as resource

# What is the Global logic?

- The easiest war to win is the one you never have to fight
- Environmental/resource insecurity will be the primary cause of instability this century (Why should this one be different?)
- Sustainable geopolitical states/regions are less vulnerable to insecurity, hence instability, hence conflict
- An Army that is not sustainable at home cannot lead another nation to sustainability


# And When Conflict Occurs . . .

- Sustainable installations are less vulnerable to domestic attack
- Sustainable home installations allow valuable resources to be devoted to warfighting
- Sustainable home installations impose less wartime stress on neighborhood communities

# Concluding Thoughts

# What Have We Learned at Cargill Dow?

- Issues are complex and interconnected
- Life Cycle Inventory is difficult and informative
- Supply chain and customers are key players
- Stakeholders are a vital part of the process
- Much education is involved in building markets for and practitioners of sustainability
- To have real meaning, sustainable production must be linked to sustainable consumption
- There is always a better way - continuous improvement



*Sustainability is a Journey  
We Invite You to Join Us!*



*Thanks, and follow our progress at:  
[www.cargilldow.com](http://www.cargilldow.com)*